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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/900,411	07/06/2001	Kazim Ozbaysal	13DV14050	5957
31316 75	590 01/28/2004		EXAMI	NER
MCNEES, WALLACE & NURICK			WYSZOMIERSKI, GEORGE P	
100 PINE STREET BOX 1166			ART UNIT	PAPER NUMBER
HARRISBURG	G, PA 17108		1742	1/1
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Please find below and/or attached an Office communication concerning this application or proceeding.

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION. Edemonds of time may be available under the provision of 37 CFR 1.136(a), in no event, however, may a reply be timely flied Edemonds of time may be available under the provision of 37 CFR 1.136(a), in no event, however, may a reply be timely flied Edemonds of the reply separated beave is less than firty (50) days, a neply within the statutory princing under the princip of the princip	. 4						
## Deficie Action Summary ## Decays Physiconierski ## True MAILING DATE of this communication appears on the cover sh twith the correspond not address Period for Reply A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ② MONTH(S) FROM ## THE MAILING DATE OF THIS COMMUNICATION. Expensions of time may be available under the protestore of 37 CFR 1.135(a). In no event, however, may a reply be timely fitted ## The Specific from specified above, the maximum stabutory period will apply and will equipe SIX (6) MONTHS from the mailing date of this communication of thiny (30) days will be considered timely. ## If the period for reply is pecified above, the maximum stabutory period will apply and will equipe SIX (6) MONTHS from the mailing date of this communication of thiny (30) days will be considered timely. ## If the period for reply is pecified above, the maximum stabutory period will apply and will equipe SIX (6) MONTHS from the mailing date of this communication. ## If the period for reply is pecified above, the maximum stabutory period will apply and will equipe SIX (6) MONTHS from the mailing date of this communication. ## If the period for reply is pecified above, the maximum stabutory period will apply and will equipe SIX (6) MONTHS from the mailing date of this communication. ## If the period for reply is pecified above, the maximum stabutory period will apply and will equipe SIX (6) MONTHS from the mailing date of this communication. ## Replacement period by the stabutory of the stabutory of the stabutory float, replaced to the communication. ## Replacement floating stabutory of the stabutory of the stabutory floating stabutory floating stabutory. ## Replacement floating stabutory of the stabutory of the stabutory floating stabutory floating stabutory floating stabutory floating stabutory. ## Replacement floating sheet(s) including the operation is objected to by the Examiner. ## Replacement floating sheet(s) including the correction is required if the developing(s) is objected to se			Application No.	Applicant(s)			
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1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 2. Claims 6, 17 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over <u>ASM Handbook</u> Volume 2 in view of <u>ASM Handbook</u> Volume 4, as set forth in the previous Office Action (Paper no. 12), taken with the following.

Volume 2 of the <u>ASM Handbook</u> teaches that it is known in the art to process titanium-base alloys (e.g. an IMI-550 alloy as recited in instant claim 6) by a series of thermo-mechanical process steps, including heating to a temperature above 1600°F, cooling to less than 800°F, a second heating to a temperature consistent with that as recited in the instant claims, and final cooling. Volume 2, particularly Volume 2, section 2, page 4, indicates it to be conventional in the art to perform a forging step as recited in instant claim 23. Volume 2, section 4, page 1 indicates that a weld repair step as recited in instant claims 6 and 17 is conventional in the art.

With respect to stress relief, Volume 2, section 2, page 20 indicates that stress relief is desirable in these alloys for purposes such as decreasing undesirable stresses resulting from previous actions such as forging, welding, and cooling steps. Removal of such stresses helps maintain shape stability and eliminate loss of compressive yield strength (commonly known as the Bauschinger effect). With respect to the specific times and temperatures claimed, one of ordinary skill in the art would have found the teachings in Volume 2 sufficiently enabling to perform the stress relief in a manner sufficient for the taught use of providing a product that has shape stability and eliminates loss of compressive yield strength, including a temperature range of 1000-1050°F.



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Volume 2 does not specify the final cooling rate as defined in the instant claims.

However, Volume 2, section 2, page 20 indicates that air or furnace cooling is desirable in order to assure uniformity of cooling throughout the material being cooled. Volume 4, particularly Volume 4, section 1, page 5, indicates that such air or furnace cooling would result in a cooling rate as defined in the instant claims.

Therefore, the combined teachings of Volume 2 of the <u>ASM Handbook</u>, together with the known effects of various cooling mechanisms on cooling rates as discussed in Volume 4 of the <u>ASM Handbook</u>, would have taught the process as presently claimed to one of ordinary skill in the art.

3. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over <u>ASM</u>

Handbook Volume 2 in view of <u>ASM Handbook</u> Volume 4, as set forth supra, and further in view of Ruckle et al. (U.S. Patent 4,631,092).

The <u>ASM Handbooks</u>, while in general disclosing a process as defined in the instant claim as discussed supra, do not explicitly teach performing such a process upon a part having one portion with a thickness less than 0.2 inch and another portion with a thickness greater than 0.2 inch. Ruckle column 4, lines 30-32 indicates that it is conventional in the art to thermomechanically form titanium-base materials having dimensions as presently claimed. In the absence of any particular advantage or unexpected result obtainable using products of the claimed dimensions, the examiner's position is that the processes as described in the <u>ASM Handbooks</u> would be applicable in general to objects made of titanium-base alloys, such as objects having the dimensions as taught be Ruckle et al.

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- 4. In a response filed October 31, 2003, Applicant alleges that the weld repairing disclosed in the <u>ASM Handbook</u> would be applicable only to castings as opposed to wrought materials, and/or that various process steps disclosed by Ruckle are distinct from those set forth in the instant claims. Applicant's arguments have been carefully considered, but are not persuasive of patentability because:
- a) It is unclear what if any relationship would exist between a weld repair step and any previous steps (e.g. casting, heating, cooling) which may have been performed upon a titanium-base object in the past. Weld repair of surface defects (as taught in Volume 2, section 4 of the ASM Handbook) would be an appropriate means to repair such defects regardless of prior processing. Further, it is noted that the "providing" step of the instant claims would include embodiments in which this step includes casting of the desired material.
- b) Nothing in the Ruckle patent or in the <u>ASM Handbook</u> would indicate that the processes as disclosed in the <u>ASM Handbook</u> would be inoperable or otherwise contraindicated upon objects having a shape as set forth by Ruckle.
- 5. Claims 1-5, 7-16, and 18-21 are allowable over the prior art of record. The prior art does not disclose or suggest a process including all of the features as recited in independent claims 1 or 12, as set froth by Applicant on page 9 of the October 31, 2003 response.
- 6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Wyszomierski whose telephone number is (571) 272-1252. The examiner can normally be reached on Monday thru Friday from 8:00 a.m. to 4:30 p.m. Eastern time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached on (571) 272-1244. Effective October 1, 2003, all patent application related correspondence transmitted by facsimile must be directed to the central facsimile number, (703) 872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-1700.

GEORGE WYSZOMIERSKI PRIMARY EXAMINER

GPW January 21, 2004